OPERATING INSTRUCTIONS

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ABM/RPM-1 Amplifier Heads and ABM Combos

Thank you for purchasing your Ashdown Engineering Amplifier. If you live in the UK, please register your purchase by completing this form and return it to the following address:

Ashdown Engineering, The Old Maltings, Hall Road, Heybridge, Maldon, Essex CM9 4NJ, England

(Alternatively you can register online at http://www.ashdownmusic.com)

If you live outside the UK, the local Ashdown distributor may have included a specific registration form for your country.

Your Ashdown Engineering product details:

Model .....
Colour .....
Voltage .....
Tested by .....
Serial number .....
Date .....

1 YEAR WARRANTY

Your Ashdown Engineering amplifier has been manufactured to the highest standards, using the best-selected materials. To ensure its optimum performance, please ensure your amplifier is regularly serviced. This product carries a one year warranty, against defects in materials and workmanship, for the original purchaser. Ashdown Engineering will, at their discretion, replace or repair any product or part thereof, which is found by Ashdown Engineering to be defective. This warranty shall not apply to the damage of covering, fittings or finishes when affected by carelessness, accident or extreme climate changes. Nor does it apply to normal wear and tear of parts such as valves, fuses, light bulbs, speakers, controls etc.

Please complete the lower section of this warranty and return it within 10 days of purchase to Ashdown Engineering Ltd. at the above address. In the unlikely event of any defect, please contact an authorised Ashdown Engineering dealer. All transport charges are to be pre-paid by the Owner. Unless the registration card is returned normal country warranty laws apply.

IMPORTANT - REGISTRATION CARD

Please complete and return this warranty within 10 days of purchase. Include any comments if possible.

Name .....
Address .....
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Email .....
Age .....

Purchased from .....
Date .....
Model .....
Serial Number .....

Comments .....
.....
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Important Safety Instructions

BASIC PRECAUTIONS

WARNING - When using electrical products, basic precautions should be followed, including the following:

1. Read all the instructions before using the product.

2. Do not use this product near water – for example, near a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool.

3. This product may cause permanent hearing loss. Do not operate for long periods of time at a high volume level or at any level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

4. Make sure nothing interferes with the ventilation of the product when in use.

5. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.

6. The product should be connected to a power supply of the type described in the operating instructions or as marked on the product.

7. The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time.

8. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

9. The product should be serviced by qualified personnel when:

   a. The power supply cord or the plug has been damaged; or
   b. Objects have fallen, or liquid has been spilled into the product: or
   c. The product has been exposed to rain or moisture: or
   d. The product does not appear to operate normally or exhibits marked change in performance: or
   e. The product has been dropped, or the enclosure damaged.

10. Do not attempt to service the product. All servicing should be referred to qualified service personnel.

11. For continued protection against the risk of fire, replace fuses only with those of the same type and rating as indicated on the back of the product.

WARNINGS USED ON THE EQUIPMENT

WARNING TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

WARNING - ATTENTION

THIS APPARATUS MUST BE EARTHED FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE.

The lightning flash with the arrow head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within this product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product.

GROUNDING INSTRUCTIONS

This product must be grounded (earthed). If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a supply cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with the local codes and ordinances.

DANGER - Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a suitable outlet fitted.

The wires in this mains cord are coloured in accordance with the following code:

Green & Yellow - Earth
Blue - Neutral
Brown - Live

CE MARK FOR EUROPEAN HARMONISED STANDARDS

The CE mark which is attached to these products means it conforms to EMC Directive (89/69/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (72/23/EEC).

ABM Design Philosophy

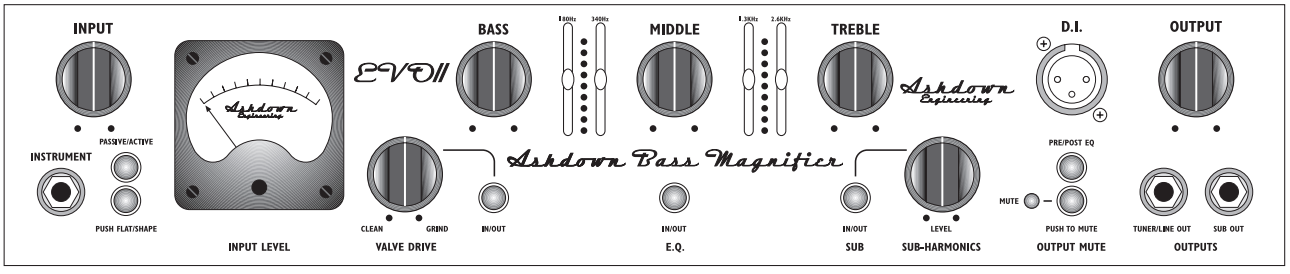
This is a NO COMPROMISE design using the best parts available wherever possible.

Some examples of this are as follows:

- Gold plated jack sockets for reliability and long life.
- Full metal XLR sockets for strength and their positive latching facility.
- Powerful output stages for extra headroom (rated in English RMS real power and not MUSIC or PEAK power as these can claim to be 2 or 3 times the actual real power of the amplifier).
- Doubling up of the cooling fans for reliability and reduced fan noise (2 fans can run at half the speed to provide the same cooling capacity and as a consequence generate only half the noise of one fan running at twice the speed).
- Speed controlled fan drive circuit. Again this reduces the amount of fan noise as the fans run slow when the unit is cool and increase in speed with output power demands.
- Powerful TOROIDAL mains transformer. This is more expensive than a laminated stack transformer but has better regulation, i.e., provides more power on demand without sagging out and also has a minimal external magnetic field which means that single coil pick up basses are less likely to pick up mains hum from the amplifier.
- FET input circuit to the preamp for 'Warmth' even when using the CLEAN input mix setting.
- D.C. heaters for the TUBE section for low noise operation.
- Switch on delay for silent power up.
- Thermal trip for output protection.
- Relay switched speaker output lines for silent power down.
- Sub Bass output and Sub Harmonics facility for really serious bottom end.

Everything possible has been done to make this a reliable, top of the range, minimum service, high quality, long lasting powerful bass amplifier.

We know you will appreciate the effort that has been put into the design and manufacture of this unit and you will be rewarded in your choice of bass amplifier by long life and reliability.



ABM/RPM-1

Front Panel Facilities

INPUTS - A single instrument input is provided, linked to a PASSIVE/ACTIVE selector switch (switch out=PASSIVE, switch in=ACTIVE). In PASSIVE mode, the input is high sensitivity and also high impedance to suit the output from PASSIVE basses. In active mode, the input is low sensitivity and lower impedance to suit the output from ACTIVE basses.

INPUT CONTROL - The INPUT control sets the signal level through the preamp in conjunction with the INPUT LEVEL VU Meter. This is adjusted to give a reading of 0VU on the meter for average playing dynamics with occasional peaks into the red region. Please note that this setting may require re-adjustment after modification of the EQ controls.

PUSH FLAT / SHAPE - With this button in its OUT position a fixed E.Q. is superimposed on the preamp to give a bright but punchy character to the sound. Pushing this button IN returns the preamp to a Flat frequency response. This function may also be controlled from a footswitch. For the footswitch to operate, this button must be in its OUT position.

VALVE DRIVE - This routes the signal either through a clean Solid State amplification section (control on zero) or through a Dual Triode Tube amplification/overdrive section to add either tonal character, i.e. warmth with the control set at 9 o'clock, a slight edge in the sound at 12 o'clock, through to an increasing degree of Tube distortion/overdrive as the control is advanced to maximum. A Mix of these two amplification sections can be achieved with this control. N.B. The degree of Tube distortion with this control will also depend on the setting of the INPUT control.

VALVE DRIVE IN/OUT - This push button switches the valve drive section IN or OUT. This function may also be controlled from a footswitch. For the footswitch to operate this button must be in its OUT position.

E.Q. IN / OUT - This button switches the Equalisation section IN or OUT, i.e., the Bass, Middle and Treble controls and the two sets of sliders placed between these. This facility is footswitchable via a socket on the rear panel. For the footswitch to operate this button must be in its out position.

EQUALISATION - This consists of BASS, MIDDLE and TREBLE controls with two sliders placed in between. This can be used in a number of ways:

- Firstly as a very simple Bass, Middle and Treble tone control section as found on older traditional amplifiers. This is done by leaving the two sets of sliders set in their centre positions and using only the BASS, MIDDLE and TREBLE controls to alter the overall tone.

- Secondly, if more control is required, then the sliders can also be used to tailor the E.Q. in the regions between the main tone controls.

This provides a very versatile Equalisation section that is simple to understand and operate, yet provides a wide degree of variation. It retains the simplicity of a three-control tone section but provides the flexibility of a graphic equaliser.

SUB HARMONICS - This section consists of an IN / OUT switch and a LEVEL control. When switched IN, Sub Harmonics an octave below the notes being played are produced. The level of these Sub Harmonics relative to the straight bass sound can be adjusted using the LEVEL control. This is very effective in thickening the sound and you will find in use that only a small degree of this lower octave is required to really fill out the sound and provide a character to the sound that is not possible by any other means. The degree of Sub Harmonics is also dependant on the setting of the BASS control. This facility is footswitchable on the ABM/RPM-1 range via a socket on the rear panel. For the footswitch to operate the Sub Harmonics must first be switched into circuit with the front panel push button.

DIRECT INJECT (D.I.) - A balanced D.I. is provided on the front panel rugged metal latching XLR socket. The ABM/RPM-1 features a push button placed below the XLR that allows the user to choose either a Pre E.Q. / Pre Sub signal or a Post E.Q. / Post Sub and Effects signal (the Pre E.Q. signal also includes the Shape facility, if this is switched into circuit). The output signal from this XLR socket is set to a level and impedance suitable for connecting directly into the Microphone input of a mixing desk for either Direct Injection into the PA system or for recording. This must ONLY be used into a Balanced Microphone input. It is not intended for any other type of connection. This has a floating ground that is referenced to the mixing console it is plugged into and should not need ground lifting. It is also unaffected by Phantom Powering on the Microphone input. Make sure your XLR plug does not have the shell of the plug internally connected to the ground signal or this will connect the system to the chassis ground of the amplifier and may cause problems with hum.

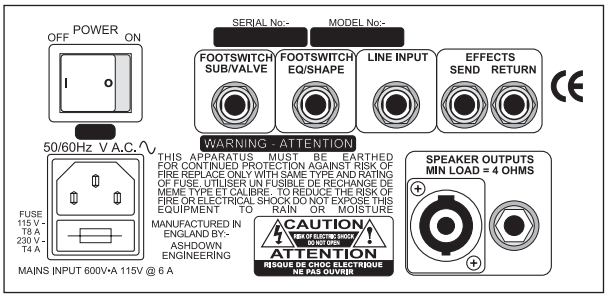
PUSH TO MUTE - When pushed IN this button mutes the output from the preamp to the power amp, mutes the output from the D.I. socket and mutes the output from the Sub Out socket as well. This leaves the output from the TUNER / LINE socket still available to allow muted tuning. An LED is provided next to this switch to indicate when the amplifier is muted. This operates only from the front panel MUTE push switch, i.e. pressing this button mutes all sound from the amplifier and allows a tuner connected to the TUNER / LINE socket to operate for silent tuning. Release the button and you are back in action again.

TUNER / LINE OUT - This output socket provides a line level signal that can be used either for a permanent connection to a tuner or a line output to slave up to other power amplifiers. Please note that if this socket is used as a slave output to other power amplifiers that the MUTE button will not mute the signal to the external power amplifiers.

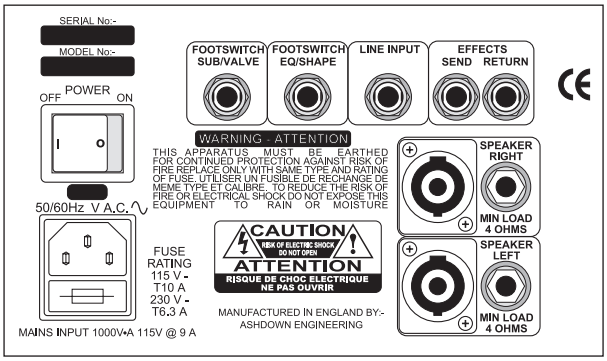
SUB OUT - This output socket provides a Low Pass filtered output for connection to a power amplifier driving a sub unit for additional extra-low bottom end. This may also be used to drive other power amplifiers to provide additional low bottom end to the system. The Low Pass filter is fixed at 160Hz.

OUTPUT LEVEL - The OUTPUT control adjusts the overall level of the amplifier. Adjust this for your preferred overall stage playing volume.

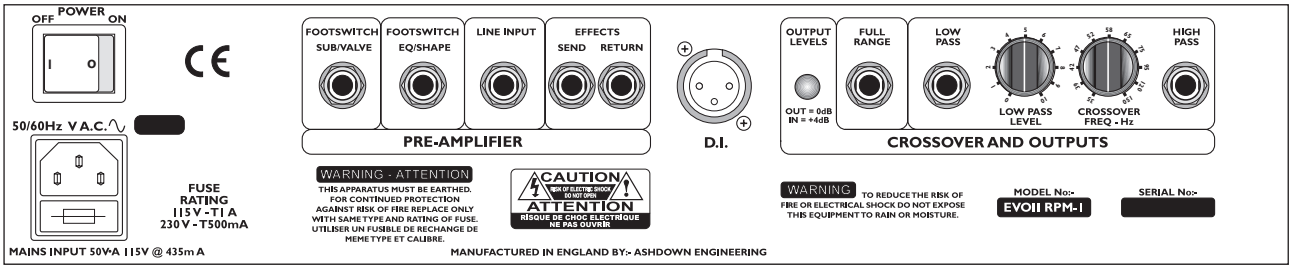
Rear Panel Facilities


SERIAL No:-
MODEL No:-
OFF POWER ON
FOOTSWITCH SUB/VALVE
FOOTSWITCH EQ/SHAPE
LINE INPUT
EFFECTS SEND RETURN
50/60Hz V A.C.
WARNING - ATTENTION
THIS APPARATUS MUST BE EARTHED FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE. TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE
SPEAKER OUTPUTS MIN LOAD = 4 OHMS
FUSE 115 V - T8 A 230 V - T4 A
MANUFACTURED IN ENGLAND BY:- ASHDOWN ENGINEERING
CAUTION
ATTENTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR
MAINS INPUT 600V•A 115V @ 6 A

300 / 500 Watt ABM Head / Combo


SERIAL No:-
MODEL No:-
OFF POWER ON
FOOTSWITCH SUB/VALVE
FOOTSWITCH EQ/SHAPE
LINE INPUT
EFFECTS SEND RETURN
WARNING - ATTENTION
THIS APPARATUS MUST BE EARTHED FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE. TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE
SPEAKER RIGHT
MIN LOAD 4 OHMS
SPEAKER LEFT
MIN LOAD 4 OHMS
50/60Hz V A.C.
CAUTION
ATTENTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR
FUSE RATING 115 V - T10 A 230 V - T6.3 A
MANUFACTURED IN ENGLAND BY:- ASHDOWN ENGINEERING
MAINS INPUT 1000V•A 115V @ 9 A

900 Watt ABM Head / Combo


OFF POWER ON
50/60Hz V A.C.
FUSE RATING 115V - T1 A 230V - T500mA
MAINS INPUT 50VA 115V @ 435m A
FOOTSWITCH SUB/VALVE
FOOTSWITCH EQ/SHAPE
LINE INPUT
EFFECTS SEND RETURN
PRE-AMPLIFIER
D.I.
OUTPUT LEVELS
OUT = 0dB IN = +4dB
FULL RANGE
LOW PASS
LOW PASS LEVEL
CROSSOVER FREQ - Hz
HIGH PASS
CROSSOVER AND OUTPUTS
WARNING - ATTENTION
THIS APPARATUS MUST BE EARTHED. FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE.
CAUTION
ATTENTION
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR
WARNING TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
MODEL No:-
EVOII RPM-1
SERIAL No:-
MANUFACTURED IN ENGLAND BY:- ASHDOWN ENGINEERING

RPM1 rack-mount preamp

Rear Panel Facilities

LINE INPUT - The rear panel has a Line Input socket for connection of other signal sources into the system. This can be used for plugging a CD, Tape or MiniDisc player into the amplifier for practising or rehearsing or for connection of a second preamp into the system.

EFFECTS SEND / RETURN - A serial effects loop is provided at a level of 0dB. The EFFECTS SEND socket can also be used as a Line Out socket if required. The signal path through the preamp is only broken when a jack plug is inserted into the EFFECTS RETURN socket. The EFFECTS SEND is situated after the EQ, Valve section and Sub Bass Processor.

FOOTSWITCH SOCKETS - Two stereo jack sockets marked SUB/VALVE and EQ/SHAPE are provided for connection of 2-way push on/push off type foot switches. The SUB footswitch mutes the Sub Harmonics when closed. For this to operate the Sub Harmonics must already be activated with the front panel push switch. For all other footswitches to operate, the corresponding front panel push buttons must be in their OUT position.

CROSSOVER AND OUTPUTS (Rack Preamp RPM-1 only) - The BASS MAGNIFIER RACK PREAMP RPM-1 has a built in high precision CROSSOVER with separate jack socket outputs for the HIGH PASS and LOW PASS signals. Crossover frequency is adjustable from 35Hz to 160Hz with a level control for the LOW PASS output to adjust the balance between LOW and HIGH outputs signals. There is also a FULL RANGE jack line output provided. This section is provided with switched output levels for simplified connection to power amplifiers that require either a 0dB or +4dB signal level. This switches the levels of all three outputs.

SPEAKER OUTPUT (except Rack Preamp RPM-1) - The Speaker Output sockets are also situated on the rear panel of the unit. The ABM provides both jack and speakon connectors.

Specifications

INPUTS

High Input	Impedance 3.9M Ohms	Input range 150mV to 20V p-p
Low Input	Impedance 10K Ohms	Input range 300mV to 40V p-p
Line Input	Impedance 22K Ohms	Input level 0dBu nominal
Effects Return	Impedance 22K Ohms	Input level 0dBu nominal

OUTPUTS

Tuner Output	Impedance 22K Ohms	Level 0dBu nominal
Sub Output	Impedance 22K Ohms	Level 0dBu nominal
Effects Send	Impedance 22K Ohms	Level 0dBu nominal
D.I. Output	600 Ohms balanced	Level -20dBu nominal
Low Pass (RPM-1 only)	Impedance 1K Ohms	Level switched 0/+4dBU
High Pass (RPM-1 only)	Impedance 1K Ohms	Level switched 0/+4dBU
Full Range (RPM-1 only)	Impedance 1K Ohms	Level switched 0/+4dBU
Speaker Outputs	Minimum impedance 4 Ohms	

EQUALISATION

Shape (Push Flat)	+8dB @ 50Hz & 4kHz, -8dB @ 400Hz, filter slope - 6dB/octave
Bass	+/-15dB @ 45Hz
Middle	+/-15dB @ 660Hz
Treble	+/-15dB @ 7kHz shelving
Slider1	+/-15dB @ 110Hz
Slider 2	+/-15dB @ 340Hz
Slider 3	+/-15dB @ 1.3kHz
Slider 4	+/-15dB @ 2.6kHz

GENERAL SPECIFICATION

Frequency Response	-3dB at 17Hz and 30KHz
Rack Preamp RPM-1 Crossover	Variable between 35 and 160Hz
Power Requirements	230 / 115V

www.ashdownmusic.com